## Subject Index of Volume 34

Absorption

preparation of nanocrystalline solid material LaFe<sub>0.5</sub>Co<sub>0.5</sub>O<sub>3</sub> with citric acid method and its XPS study on, of oxygen, 58

Active layer thickness

effect of, on leakage current in p+pp+ accumulation polycrystalline Si TFTs, 62

martensitic transformation and shape memory effect in Fe-33Ni-12Co-5Ti alloy, 14

Aluminium

chemical stability of inviscid melt-spun (IMS) fibres of calcia-alumina in aqueous media, 219

crystal chemistry and magnetic properties of K2NiF4 type diluted solid solution  $YCaAl_{1-x}Cr_xO_4$  ( $0 \le x \le 0.10$ ): evidence for Cr3+ clustering, 300

thermolysis of mixed alums: route to mesoporous chromia-alumina, 214

viscosity of eutectic calcia-alumina melts, 81

Annealing

characterization of as-deposited and annealed indium oxide thin films, 119

Antimony

activator (Mn, Sb) speciation in phosphors for fluorescent lamps, 270

microstructure and magnetic properties of R2BaNiO5 (R=Sm, Gd, Yb and Lu), 233

photoelectrochemical studies and mixed oxide bronze Ba<sub>3</sub>Nb<sub>4</sub>Ti<sub>4</sub>O<sub>21</sub>, 295

superconducting properties of oriented YBa2Cu3O7-x films on MgO and SrTiO<sub>3</sub> substrates, 110

Bismuth

kinetic study of formation of Bi1.8Pb0.2Sr2Ca2Cu2Ox ceramic superconductor, 157

nonaqueous chemical bath deposition of Bi2S3 thin films,

optimization of melt-solidification process for

Bi<sub>1.6</sub>Pb<sub>0.4</sub>Ca<sub>2</sub>Sr<sub>2</sub>Cu<sub>3</sub>O<sub>x</sub> high-T<sub>c</sub> superconductor thick films, 162

Block copolymers

synthesis and characterization of, of polyether sulphone with liquid crystalline polyesters, 28

Calcium

chemical stability of inviscid melt-spun (IMS) fibres of calcia-alumina in aqueous media, 219

crystal chemistry and magnetic properties of K2NiF4 type diluted solid solution YCaAl<sub>1-x</sub>Cr<sub>x</sub>O<sub>4</sub> (0 < x < 0.10): evidence for Cr3+ clustering, 300

kinetic study of formation of Bi1.8Pb02Sr2Ca2Cu2O, ceramic superconductor, 157

optimization of melt-solidification process for Bi<sub>1.6</sub>Pb<sub>0.4</sub>Ca<sub>2</sub>Sr<sub>2</sub>Cu<sub>3</sub>O<sub>x</sub> high-T<sub>c</sub> superconductor thick films, 162

viscosity of eutectic calcia-alumina melts, 81

C-C composite

pitch fibre-phenolic/CVI matrix; microstructure of, 244

C<sub>60</sub> clusters

electronic energy calculation of, 78

kinetic study of formation of Bi<sub>1.8</sub>Pb<sub>0.2</sub>Sr<sub>2</sub>Ca<sub>2</sub>Cu<sub>2</sub>O<sub>x</sub> ceramic superconductor, 157

'001' microstructure of highly textured YBCO ceramic, 201

fluorescence spectra of Ce3+-doped alkaline earth and lanthanide oxyhalide powder phosphors, 310

Chemical bath deposition

nonaqueous, of Bi2S3 thin films 313

Chemical stability

of inviscid melt-spun (IMS) fibres of calcia-alumina in aqueous media, 219

Chromium

crystal chemistry and magnetic properties of K2NiF4 type diluted solid solution  $YCaAl_{1-x}Cr_xO_4$  ( $0 \le x \le 0.10$ ): evidence for Cr3+ clustering, 300

thermolysis of mixed alums: route to mesoporous chromia-alumina, 214

Citric acid method

preparation of nanocrystalline solid material LaFe<sub>0.5</sub>Co<sub>0.5</sub>O<sub>3</sub> with, and its XPS study on absorption of oxygen, 58 Clustering

Cr3+: evidence for: crystal chemistry and magnetic properties of K2NiF4 type diluted solid solution  $YCaAl_{1-x}Cr_xO_4 \ (0 \le x \le 0.10), 300$ 

C<sub>60</sub>; electronic energy calculation of, 78

C-mineral adsorbents

new type of sorbents: surface properties and methods of its modification, 123

Cohalt

martensitic transformation and shape memory effect in Fe-33Ni-12Co-5Ti alloy, 14

preparation of nanocrystalline solid material LaFe<sub>0.5</sub>Co<sub>0.5</sub>O<sub>3</sub> with citric acid method and its XPS study on absorption of oxygen, 58

Computer simulation studies

on electrodeposition of Zn, 290

Conductance

universal, fluctuations in magnetic field, 251

CuInSe<sub>2</sub> for photovoltaics: critical assessment, 1

kinetic study of formation of Bi1.8Pb0.2Sr2Ca2Cu2O4 ceramic superconductor, 157

optimization of melt-solidification process for Bi<sub>1.6</sub>Pb<sub>0.4</sub>Ca<sub>2</sub>Sr<sub>2</sub>Cu<sub>3</sub>O<sub>x</sub> high-T<sub>c</sub> superconductor thick films,

162

structural and optical properties of sprayed CuInS2 thin

superconducting properties of oriented YBa2Cu3O7-x films on MgO and SrTiO<sub>3</sub> substrates, 110

synthesis and characterization of nanocrystalline powders of pure Ni and, 205

Corrosion

and isotopic effects of materials, 91

Crystal chemistry

and magnetic properties of K2NiF4 type diluted solid solu-

tion YCaAl1-xCrxO4 (0 < x < 0.10): evidence for Cr3+ clustering, 300

Crystallization

and gel synthesis of Li<sub>2</sub>O·3GeO<sub>2</sub> glass powders, 86 and solid phase amorphization in multilayer and bilayer Rh-Si thin films, 274

of polypropylene: isothermal kinetics, 46 of polypropylene: non-isothermal kinetics, 52

Crystals

behaviour of tetragonal to monoclinic transition in hot pressed zirconia doped with 2 mol% yttria, 317

flux-grown YbFeO3 single; fracture toughness and hardness studies on, 257

liquid crystalline polyesters; synthesis and characterization of block copolymers of polyether sulphone with, 28

NaCl:Ni2+; drift of impurities toward dislocations in, 228 nanocrystalline powders of pure Ni and Cu; synthesis and characterization of, 205

nanocrystalline solid material LaFe05Co05O3 with citric acid method and its XPS study on absorption of oxygen; preparation of, 58

p\*pp\* accumulation polycrystalline Si TFTs; effect of active layer thickness on leakage current in, 62

polycrystalline titanium molybdate; electrical transport properties of, 285

quasi-2D crystal growth on structureless 3-methyl-methoxynitrostilbene thin films, 142

single crystal-like zirconia particles; procedure for achieving, 154

CVD growth

modified, and characterization of ZnO thin films, 41

Doping

behaviour of tetragonal to monoclinic transition in hot pressed zirconia doped with 2 mol% yttria, 317 fluorescence spectra of Ce3+-doped alkaline earth and lanthanide oxyhalide powder phosphors, 310 laser Raman and FT-IR studies of pure and Zn-doped TGS, 73

Electrical transport properties of polycrystalline titanium molybdate, 285 Electrochemical deposition

of iron sulphide thin films on tin oxide substrates, 263 Electrodeposition

computer simulation studies on, of Zn, 290

Electronic energy calculation of C60 clusters, 78

Electronic properties

and molecular structure of  $SH_n$  (n=2, 4) molecules: ab initio SCF study, 115

structure and physical properties of stabilized HfO2-R2O3 (R=Sc, Yb, Y, Tb, Gd, Er), 175

Ethylene glycol bath

sulphamate-; plating, properties and structure of Ni deposits from, 238

chemical stability of inviscid melt-spun (IMS) fibres of calcia-alumina in aqueous media, 219 microstructure of pitch fibre-phenolic/CVI matrix C-C composite, 244

Films

as-deposited and annealed indium oxide thin; characterization of, 119

Bi<sub>1.6</sub>Pb<sub>0.4</sub>Ca<sub>2</sub>Sr<sub>2</sub>Cu<sub>3</sub>O<sub>x</sub> high-T<sub>c</sub> superconductor thick; optimization of melt-solidification process for, 162

Bi<sub>2</sub>S<sub>3</sub> thin; nonaqueous chemical bath deposition of, 313 iron sulphide thin; electrochemical deposition of, on tin oxide substrates, 263

multilayer and bilayer Rh-Si thin; solid phase amorphization and crystallization in, 274

oriented YBa2Cu3O7-s on MgO and SrTiO3 substrates; superconducting properties of, 110

passivating; discontinuity of, at nonmetallic inclusions in stainless steels, 181

sprayed CuInS2 thin; structural and optical properties of,

structureless 3-methyl-methoxy-nitrostilbene thin; quasi-2D crystal growth on, 142

ZnO thin; modified CVD growth and characterization of,

Fluorescence spectra

of Ce3+-doped alkaline earth and lanthanide oxyhalide powder phosphors, 310

Fluorescent lamps

activator (Mn, Sb) speciation in phosphors for, 270

and PVB and organic solvent; characteristics of tape cast-

ing slurries containing, 147

Fracture toughness

and hardness studies on flux-grown YbFeO3 single crystals, 257

Gadolinium

microstructure and magnetic properties of R2BaNiO5 (R=Sm, Gd, Yb and Lu), 233 structure and physical properties of stabilized HfO2-R2O3

(R=Sc, Yb, Y, Tb, Gd, Er), 175 Germanium

gel synthesis and crystallization of Li<sub>2</sub>O·3GeO<sub>2</sub> glass

X-ray analysis and IR absorption spectra of Li-Ge ferrite, 35

Glass powders

Li<sub>2</sub>O·3GeO<sub>2</sub>; gel synthesis and crystallization of, 86

Hafnium

structure and physical properties of stabilized HfO2-R2O3 (R=Sc, Yb, Y, Tb, Gd, Er), 175

Hardness studies

and fracture toughness on flux-grown YbFeO3 single crystals, 257

Impurities

drift of, toward dislocations in NaCl:Ni2+ crystals, 228 Indium

characterization of as-deposited and annealed indium oxide thin films, 119

CuInSe<sub>2</sub> for photovoltaics: critical assessment, 1 structural and optical properties of sprayed CuInS2 thin films, 24

Iron

discontinuity of passivating film at nonmetallic inclusions in stainless steels, 181

fracture toughness and hardness studies on flux-grown YbFeO<sub>3</sub> single crystals, 257

martensitic transformation and shape memory effect in Fe-33Ni-12Co-5Ti alloy, 14

preparation of nanocrystalline solid material LaFe<sub>0.5</sub>Co<sub>0.5</sub>O<sub>3</sub> with citric acid method and its XPS study on absorption of oxygen, 58

X-ray analysis and IR absorption spectra of Li-Ge ferrite, 35

Isothermal kinetics

crystallization of polypropylene, 46

Isotopic effects

and corrosion of materials, 91

## Lanthanum

fluorescence spectra of Ce<sup>3+</sup>-doped alkaline earth and lanthanide oxyhalide powder phosphors, 310

preparation of nanocrystalline solid material LaFe<sub>0.5</sub>Co<sub>0.5</sub>O<sub>3</sub> with citric acid method and its XPS study on absorption of oxygen, 58

Lead

kinetic study of formation of Bi<sub>1.8</sub>Pb<sub>0.2</sub>Sr<sub>2</sub>Ca<sub>2</sub>Cu<sub>2</sub>O<sub>x</sub> ceramic superconductor, 157

optimization of melt-solidification process for Bi<sub>1.6</sub>Pb<sub>0.4</sub>Ca<sub>2</sub>Sr<sub>2</sub>Cu<sub>3</sub>O<sub>x</sub> high-T<sub>c</sub> superconductor thick films, 162

Leakage current

effect of active layer thickness on, in p<sup>+</sup>pp<sup>+</sup> accumulation polycrystalline Si TFTs, 62

Lithium

gel synthesis and crystallization of Li<sub>2</sub>O·3GeO<sub>2</sub> glass powders, 86

X-ray analysis and IR absorption spectra of Li-Ge ferrite, 35

Lutetium

microstructure and magnetic properties of R<sub>2</sub>BaNiO<sub>5</sub> (R=Sm, Gd, Yb and Lu), 233

Magnesium

characteristics of tape casting slurries containing forsterite, PVB and organic solvent, 147

superconducting properties of oriented YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> films on MgO and SrTiO<sub>3</sub> substrates, 110

Magnetic field

universal conductance fluctuations in, 251

Magnetic properties

and crystal chemistry of  $K_2NiF_4$  type diluted solid solution  $YCaAl_{1-x}Cr_xO_4$  ( $0 \le x \le 0.10$ ): evidence for  $Cr^{3+}$  clustering, 300

and microstructure of R<sub>2</sub>BaNiO<sub>5</sub> (R=Sm, Gd, Yb and Lu), 233

Manganese

activator (Mn, Sb) speciation in phosphors for fluorescent lamps, 270

Martensitic transformation

and shape memory effect in Fe-33Ni-12Co-5Ti alloy, 14 Melt-solidification process

optimization of, for Bi<sub>1.6</sub>Pb<sub>0.4</sub>Ca<sub>2</sub>Sr<sub>2</sub>Cu<sub>3</sub>O<sub>x</sub> high-T<sub>c</sub> superconductor thick films, 162

3-Methyl-methoxy-nitrostilbene

structureless, thin films; quasi-2D crystal growth on, 142 Microstructure

'001', of highly textured YBCO ceramic, 201

and magnetic properties of R<sub>2</sub>BaNiO<sub>5</sub> (R=Sm, Gd, Yb and Lu), 233

of pitch fibre-phenolic/CVI matrix C-C composite, 244 Molecular structure

and electronic properties of SH<sub>n</sub> (n=2, 4) molecules: ab initio SCF study, 115

Molybdenum

electrical transport properties of polycrystalline titanium molybdate, 285

spectroscopic study of MoCl<sub>5</sub>-derived species via sol-gel method, 101

Nickel

crystal chemistry and magnetic properties of  $K_2NiF_4$  type diluted solid solution  $YCaAl_{1-x}Cr_xO_4$   $(0 \le x \le 0.10)$ : evidence for  $Cr^{3+}$  clustering, 300

drift of impurities toward dislocations in NaCl:Ni<sup>2+</sup> crystals, 228

martensitic transformation and shape memory effect in Fe-33Ni-12Co-5Ti alloys, 14

microstructure and magnetic properties of R<sub>2</sub>BaNiO<sub>5</sub> (R=Sm, Gd, Yb and Lu), 233

plating, properties and structure of Ni deposits from sulphamate-ethylene glycol bath, 238

synthesis and characterization of nanocrystalline powders of pure Cu and, 205

Niobium

photoelectrochemical studies on mixed oxide bronze Ba<sub>3</sub>Nb<sub>4</sub>Ti<sub>4</sub>O<sub>21</sub>, 295

Non-isothermal kinetics

crystallization of polypropylene, 52

Optical properties

and structural properties of sprayed CuInS, thin films, 24

Phase equilibria

in system YPO4-Na4P2O7-NaPO3, 68

Phosphors

activator (Mn, Sb) speciation in, for fluorescent lamps, 270 fluorescence spectra of Ce<sup>3+</sup>-doped alkaline earth and lanthanide oxyhalide powder phosphors, 310

Phosphorus

phase equilibria in system YPO<sub>4</sub>-Na<sub>4</sub>P<sub>2</sub>O<sub>7</sub>-NaPO<sub>3</sub>, 68

Photoelectrochemical studies

on mixed oxide bronze Ba<sub>3</sub>Nb<sub>4</sub>Ti<sub>4</sub>O<sub>21</sub>, 295

Photovoltaics

CuInSe<sub>2</sub> for: critical assessment, 1

Physical properties

and structure of stabilized HfO<sub>2</sub>-R<sub>2</sub>O<sub>3</sub> (R=Sc, Yb, Y, Tb, Gd, Er), 175

Plating

and properties and structure of Ni deposits from sulphamate-ethylene glycol bath, 238

Point defect interaction

precipitate strain relief via: models for SiO<sub>2</sub> in Si, 166 Poly(carboxylic acid)

-polypyrrole conducting composites, 306

Polyesters

iliquid crystalline; synthesis and characterization of block copolymers of polyether sulphone with, 28

Polyether sulphone

synthesis and characterization of block copolymers of, with liquid crystalline polyesters, 28

Polypropylene

crystallization of: isothermal kinetics, 46 crystallization of: non-isothermal kinetics, 52

Polypyrrole

-poly(carboxylic acid) conducting composites, 306

otassium

crystal chemistry and magnetic properties of K2NiF4 type

diluted solid solution YCaAl<sub>1-x</sub>Cr<sub>x</sub>O<sub>4</sub> ( $0 \le x \le 0.10$ ); evidence for Cr<sup>3+</sup> clustering, 300

PVB

and forsterite and organic solvent; characteristics of tape casting slurries containing, 147

Rhodium

solid phase amorphization and crystallization in multilayer and bilayer Rh-Si thin films, 274

Samarium

microstructure and magnetic properties of R<sub>2</sub>BaNiO<sub>5</sub> (R=Sm, Gd, Yb and Lu), 233

Scandium

structure and physical properties of stabilized HfO<sub>2</sub>-R<sub>2</sub>O<sub>3</sub> (R=Sc, Yb, Y, Tb, Gd, Er), 175

SCF study

ab initio: molecular structure and electronic properties of  $SH_n$  (n=2, 4) molecules, 115

Selenium

CuInSe<sub>2</sub> for photovoltaics: critical assessment, 1

Shape memory effect

and martensitic transformation in Fe-33Ni-12Co-5Ti alloy, 14

Silicon

characteristics of tape casting slurries containing forsterite, PVB and organic solvent, 147

effect of active layer thickness on leakage current in p\*pp\* accumulation polycrystalline Si TFTs, 62

precipitate strain relief via point defect interaction: models for SiO<sub>2</sub> in Si, 166

solid phase amorphization and crystallization in multilayer and bilayer Rh-Si thin films, 274

Slurries

tape casting; characteristics of, containing forsterite, PVB and organic solvent, 147

Sodium

drift of impurities toward dislocations in NaCl:Ni<sup>2+</sup> crystals, 228

phase equilibria in system YPO<sub>4</sub>-Na<sub>4</sub>P<sub>2</sub>O<sub>7</sub>-NaPO<sub>3</sub>, 68 Sol-gel method

spectroscopic study of MoCl<sub>5</sub>-derived species via, 101 Solid phase amorphization

and crystallization in multilayer and bilayer Rh-Si thin films, 274

Sorbents

new type of: C-mineral adsorbents: surface properties and methods of its modification, 123

Spectra

fluorescence, of Ce<sup>3+</sup>-doped alkaline earth and lanthanide oxyhalide powder phosphors, 310

IR absorption, and X-ray analysis of Li-Ge ferrite, 35 Spectroscopy

laser Raman and FT-IR studies of pure and Zn-doped TGS, 73

preparation of nanocrystalline solid material LaFe<sub>0.5</sub>Co<sub>0.5</sub>O<sub>3</sub> with citric acid method and its XPS study on absorption of oxygen, 58

spectroscopic study of MoCl<sub>5</sub>-derived species via sol-gel method, 101

Stainless steels

discontinuity of passivating film at nonmetallic inclusions in, 181

Strain relief

precipitate, via point defect interaction: models for SiO<sub>2</sub> in Si, 166

Strontium

kinetic study of formation of Bi<sub>1.8</sub>Pb<sub>0.2</sub>Sr<sub>2</sub>Ca<sub>2</sub>Cu<sub>2</sub>O<sub>x</sub> ceramic superconductor, 157

optimization of melt-solidification process for  $Bi_{1,6}Pb_{0,6}Ca_2Sr_2Cu_3O_x$  high- $T_c$  superconductor thick films,

superconducting properties of oriented YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> films on MgO and SrTiO<sub>3</sub> substrates, 110

Structural properties

and optical properties of sprayed CuInS<sub>2</sub> thin films, 24 Sulphur

electrochemical deposition of iron sulphide thin films on tin oxide substrates, 263

nonaqueous chemical bath deposition of Bi<sub>2</sub>S<sub>3</sub> thin films, 313

plating, properties and structure of Ni deposits from sulphamate-ethylene glycol bath, 238

structural and optical properties of sprayed CuInS<sub>2</sub> thin films, 24

synthesis and characterization of block copolymers of polyether sulphone with liquid crystalline polyesters, 28 Superconducting oxides

high-temperature: some recent developments in: work review, 185

Superconducting properties

of oriented YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> films on MgO and SrTiO<sub>3</sub> substrates, 110

Superconductor

Bi<sub>16</sub>Pb<sub>0.4</sub>Ca<sub>2</sub>Sr<sub>2</sub>Cu<sub>3</sub>O<sub>x</sub> high-T<sub>c</sub>, thick films; optimization of melt-solidification process for, 162

Bi<sub>1.8</sub>Pb<sub>0.2</sub>Sr<sub>2</sub>Ca<sub>2</sub>Cu<sub>2</sub>O<sub>x</sub> ceramic; kinetic study of formation of, 157

Surface properties

and methods of its modification: C-mineral adsorbents new type of sorbents, 123

Synthesis

and characterization of block copolymers of polyether sulphone with liquid crystalline polyesters, 28

and characterization of nanocrystalline powders of pure Ni and Cu, 205

gel, and crystallization of Li<sub>2</sub>O·3GeO<sub>2</sub> glass powders, 86

Terbium

structure and physical properties of stabilized HfO<sub>2</sub>-R<sub>2</sub>O<sub>3</sub> (R=Sc, Yb, Y, Tb, Gd, Er), 175

TFTs

p<sup>+</sup>pp<sup>+</sup> accumulation polycrystalline Si; effect of active layer thickness on leakage current in, 62

TGS

pure and Zn-doped; laser Raman and FT-IR studies of, 73

Thermolysis

of mixed alums; route to mesoporous chromia-alumina, 214

Tin

electrochemical deposition of iron sulphide thin films on tin oxide substrates, 263

**Titanium** 

electrical transport properties of polycrystalline titanium molybdate, 285

martensitic transformation and shape memory effect in Fe-33Ni-12Co-5Ti alloy, 14

photoelectrochemical studies on mixed oxide bronze Ba<sub>3</sub>Nb<sub>4</sub>Ti<sub>4</sub>O<sub>21</sub>, 295 superconducting properties of oriented YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> films on MgO and SrTiO<sub>3</sub> substrates, 110

Viscosity

of eutectic calcia-alumina melts, 81

X-ray analysis

and IR absorption spectra of Li-Ge ferrite, 35

Ytterbium

fracture toughness and hardness studies on flux-grown YbFeO<sub>3</sub> single crystals, 257

microstructure and magnetic properties of R<sub>2</sub>BaNiO<sub>5</sub> (R=Sm, Gd, Yb and Lu), 233

structure and physical properties of stabilized HfO<sub>2</sub>-R<sub>2</sub>O<sub>3</sub> (R=Sc, Yb, Y, Tb, Gd, Er), 175

Yttrium

behaviour of tetragonal to monoclinic transition in hot pressed zirconia doped with 2 mol% yttria, 317 crystal chemistry and magnetic properties of  $K_2NiF_4$  type diluted solid solution  $YCaAl_{1-x}Cr_xO_4$   $(0 \le x \le 0.10)$ : evidence for  $Cr^{3+}$  clustering, 300

phase equilibria in system YPO<sub>4</sub>-Na<sub>4</sub>P<sub>2</sub>O<sub>7</sub>-NaPO<sub>3</sub>, 68 structure and physical properties of stabilized HfO<sub>2</sub>-R<sub>2</sub>O<sub>3</sub> (R=Sc, Yb, Y, Tb, Bd, Er), 175

superconducting properties of oriented YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> films on MgO and SrTiO<sub>3</sub> substrates, 110

Zinc

computer simulation studies on electrodeposition of, 290 laser Raman and FT-IR studies of pure and Zn-doped TGS, 73

modified CVD growth and characterization of ZnO thin films, 41

Zirconium

behaviour of tetragonal to monoclinic transition in hot pressed zirconia doped with 2 mol% yttria, 317 procedure for achieving single crystal-like zirconia particles, 154